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| 10/686,483 | 10/16/2003 | Roger Dale Koch | 08350.2521 | 8062 |

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EXAMINER

KOSOWSKI, ALEXANDER J

ART UNIT PAPER NUMBER

2125

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/686,483

Applicant(s)

KOCH ET AL

Examiner

Alexander J. Kosowski

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/16/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

- 1) Claims 1-23 are presented for examination.

Claim Rejections - 35 USC § 103

- 2) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- 3) Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davidson (U.S. Pat 6,354,023), further in view of Trahan (U.S. Pat 6,354,023).

Referring to claim 1, Davidson teaches an operator interface for a work machine having a machine display system and a mechanical linkage, comprising: an input device having a series of input mechanisms adapted to generate a linkage input signal to control the motion of the mechanical linkage (col. 5 lines 1-8); a control module adapted to operate in a linkage control mode where the motion of the mechanical linkage is controlled (col. 5 lines 1-8), a display control mode where the input of information to the machine display system is controlled (col. 5 lines 9-15); and a switch associated with the interface capable of switching between a data input mode and a linkage monitoring mode (col. 7 lines 25-55). However, Davidson does not explicitly teach that the input device is also adapted to generate a display input signal to input information to the machine display system, nor that the switch is adapted to switch the operating mode between the linkage control mode and the display control mode.

Trahan teaches an operator interface for a work machine whereby a multifunction joystick is adapted to control multiple functions of a control system (col. 3 lines 10-25), and

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whereby a control module is capable of operating in two different modes which are selected via a switch ,the same input device being used for both modes (col. 2 lines 35-55).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to adapt the input device to also generate a display input signal to input information and to utilize a switch to switch operating modes between linkage control and display control in the invention taught by Davidson since this would allow a plurality of independent functions to be controlled selectively using a single multifunction joystick (Trahan, col. 2 lines 15-18) and since eliminating multiple controllers is less cumbersome and more efficient in small operator's cabins (Trahan, col. 1 lines 62-67).

Referring to claims 2-4, Davidson teaches the above. Davidson also teaches that the switch is a toggle switch (col. 7 lines 27-31). However, Davidson does not explicitly teach that the switch is a toggle switch adapted to switch the operating mode of the control module between the linkage control mode and the display control mode, that the switch includes logic in the control module, adapted to switch the operating mode between the linkage control mode and the display control mode in response to a toggle signal, nor that the toggle signal is a predetermined manipulation of the input device.

Trahan teaches an operator interface for a work machine whereby a multifunction joystick is adapted to control multiple functions of a control system (col. 3 lines 10-25), whereby a control module is capable of operating in two different modes which are selected via a switch , the same input device being used for both modes (col. 2 lines 35-55), and whereby the toggle signal generated by the switch is a predetermined manipulation of the input device (col. 4 lines 17-20).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to utilize a toggle switch and logic in the control module to switch operating modes, and to utilize a predetermined manipulation of the input device to control the toggle signal in the invention taught by Davidson since this would allow a plurality of independent functions to be controlled selectively using a single multifunction joystick (Trahan, col. 2 lines 15-18) and since eliminating multiple controllers is less cumbersome and more efficient in small operator's cabins (Trahan, col. 1 lines 62-67).

Referring to claim 5, Davidson teaches that the control module is adapted to control an input of information based on the display input signal when the control module is operating in the display control mode (col. 5 lines 9-15).

Referring to claim 6, Davidson teaches that the selectable functions include a selection of an operating mode (col. 5 lines 16-33).

Referring to claim 7, Davidson teaches that the input of information includes a selection of an icon (col. 5 lines 63-65).

Referring to claim 8, Davidson teaches that the control module is adapted to control the input of information by a selectable icon (col. 5 lines 63-65).

Referring to claim 9, Davidson teaches that the control module is adapted to control the position of at least one of a plurality of hydraulic valves associated with the mechanical linkage in response to the linkage input signal when the control module is operating in the linkage control mode (col. 4 lines 22-38 and col. 5 lines 1-8).

Referring to claim 10, Davidson teaches that the input mechanisms of the input device include a trigger (col. 4 lines 56-58).

Referring to claim 11, Davidson teaches the above. Davidson also teaches a control module (col. 4 lines 50-56). However, Davidson does not explicitly teach that the control module includes a first processor adapted to operate in the linkage control mode; and a second processor adapted to operate in the display control mode.

Trahan teaches a controller with a processor utilizing two inputs and capable of switching between multiple modes of operation (col. 3 lines 60-67).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to utilize a processor for linkage control and a processor for display control in the invention taught by Davidson since this would allow a plurality of independent functions to be controlled selectively using a single multifunction joystick (Trahan, col. 2 lines 15-18).

Referring to claim 12, Davidson teaches a method for operating a work machine comprising: operating an input device in a linkage control mode where the motion of a mechanical linkage is controlled (col. 5 lines 1-8), and a display control mode where an input of information is provided to a display system (col. 5 lines 9-15); switching between a data input mode and a linkage monitoring mode (col. 7 lines 25-55); and operating an input device in the other of the linkage control mode and the display control mode (col. 5 lines 1-15). However, Davidson does not explicitly teach switching the mode of operation of a control module between the linkage control mode and the display control mode whereby the input device is operated in the other of the linkage control or display control mode.

Trahan teaches an operator interface for a work machine whereby a multifunction joystick is adapted to control multiple functions of a control system (col. 3 lines 10-25), and

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whereby a control module is capable of operating in two different modes which are selected via a switch ,the same input device being used for both modes (col. 2 lines 35-55).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to switch the mode of operation of a control module between a linkage control mode and a display control mode whereby the input device is operated in the other of the linkage control or display control mode in the invention taught by Davidson since this would allow a plurality of independent functions to be controlled selectively using a single multifunction joystick (Trahan, col. 2 lines 15-18) and since eliminating multiple controllers is less cumbersome and more efficient in small operator's cabins (Trahan, col. 1 lines 62-67).

Referring to claims 13-15, see rejection of claims 2-4 above.

Referring to claim 16, Davidson teaches manipulating the input device to control the motion of a mechanical linkage when the input device is operating in the linkage control mode (col. 4 lines 22-38 and col. 5 lines 1-8).

Referring to claim 17, Davidson teaches manipulating the input device to input information to the display system when the input device is operating in the display control mode (col. 5 lines 9-15).

Referring to claim 18, Davidson teaches a work machine comprising: a mechanical linkage having a work implement (col. 4 lines 22-38); a machine display system associated with the work machine for receiving and displaying information (col. 2 lines 1-9); an input device having a series of input mechanisms adapted to generate a linkage input signal to control the motion of the mechanical linkage (col. 5 lines 1-8) and an input display device to generate a display input signal to input information to the machine display system (col. 5 lines 9-15); a

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control module adapted to operate in a linkage control mode where the motion of the mechanical linkage is controlled (col. 4 lines 50-56) and a control module for a display control mode where the input of information to the machine display system is controlled (col. 4 lines 50-56); and a switch associated with the interface capable of switching between a data input mode and a linkage monitoring mode (col. 7 lines 25-55). However, Davidson does not explicitly teach that the input device both controls the mechanical linkage and the display input system, that a control module is adapted to operate in one of a linkage control and a display control mode, nor that the switch is adapted to switch the operating mode between the linkage control mode and the display control mode.

Trahan teaches an operator interface for a work machine whereby a multifunction joystick is adapted to control multiple functions of a control system (col. 3 lines 10-25), and whereby a control module is capable of operating in two different modes which are selected via a switch, the same input device being used for both modes (col. 2 lines 35-55).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have an input device both control the mechanical linkage and the display input system, have a control module that is adapted to operate in one of a linkage control and a display control mode, and have a switch that is adapted to switch the operating mode between the linkage control mode and the display control mode in the invention taught by Davidson since this would allow a plurality of independent functions to be controlled selectively using a single multifunction joystick (Trahan, col. 2 lines 15-18) and since eliminating multiple controllers is less cumbersome and more efficient in small operator's cabins (Trahan, col. 1 lines 62-67).

Referring to claims 19-20, see rejection of claims 2-3 above.

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Referring to claim 21, see rejection of claim 5 above.

Referring to claim 22, see rejection of claim 11 above.

Referring to claim 23, Davidson teaches an operator interface comprising: an input means for controlling the motion of the mechanical linkage (col. 5 lines 1-8), input means for controlling an input of information to the machine display (col. 5 lines 9-15); a control means for operating in a linkage control mode where the motion of the mechanical linkage is controlled (col. 4 lines 22-38) and a control means for operating in a display control mode where the input of information to the machine display is controlled (col. 4 lines 50-56), and a switching means associated with the interface capable of switching between a data input mode and a linkage monitoring mode (col. 7 lines 25-55). However, Davidson does not explicitly teach that the control means operates in both a linkage control and a display control mode, nor that the switching means switches operating modes between linkage control and display control.

Trahan teaches an operator interface for a work machine whereby a multifunction joystick is adapted to control multiple functions of a control system (col. 3 lines 10-25), and whereby a control module is capable of operating in two different modes which are selected via a switch, the same input device being used for both modes (col. 2 lines 35-55).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have the control means operate in both a linkage control and a display control mode, and to have the switching means switches operating modes between linkage control and display control in the invention taught by Davidson since this would allow a plurality of independent functions to be controlled selectively using a single multifunction joystick (Trahan,

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col. 2 lines 15-18) and since eliminating multiple controllers is less cumbersome and more efficient in small operator's cabins (Trahan, col. 1 lines 62-67).

Conclusion

4) The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nordstrom (U.S. Pat 4,574,651) – teaches a control stick unit capable of multiple functions.

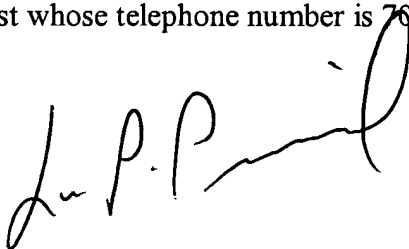
Ishimoto et al (U.S. Pat 6,826,465) – teaches an information display device for construction equipment.

5) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander J Kosowski whose telephone number is 571-272-3744. The examiner can normally be reached on Monday through Friday, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 571-272-3749. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306. In addition, the examiner's RightFAX number is 571-273-3744.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Alexander J. Kosowski
Patent Examiner
Art Unit 2125



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